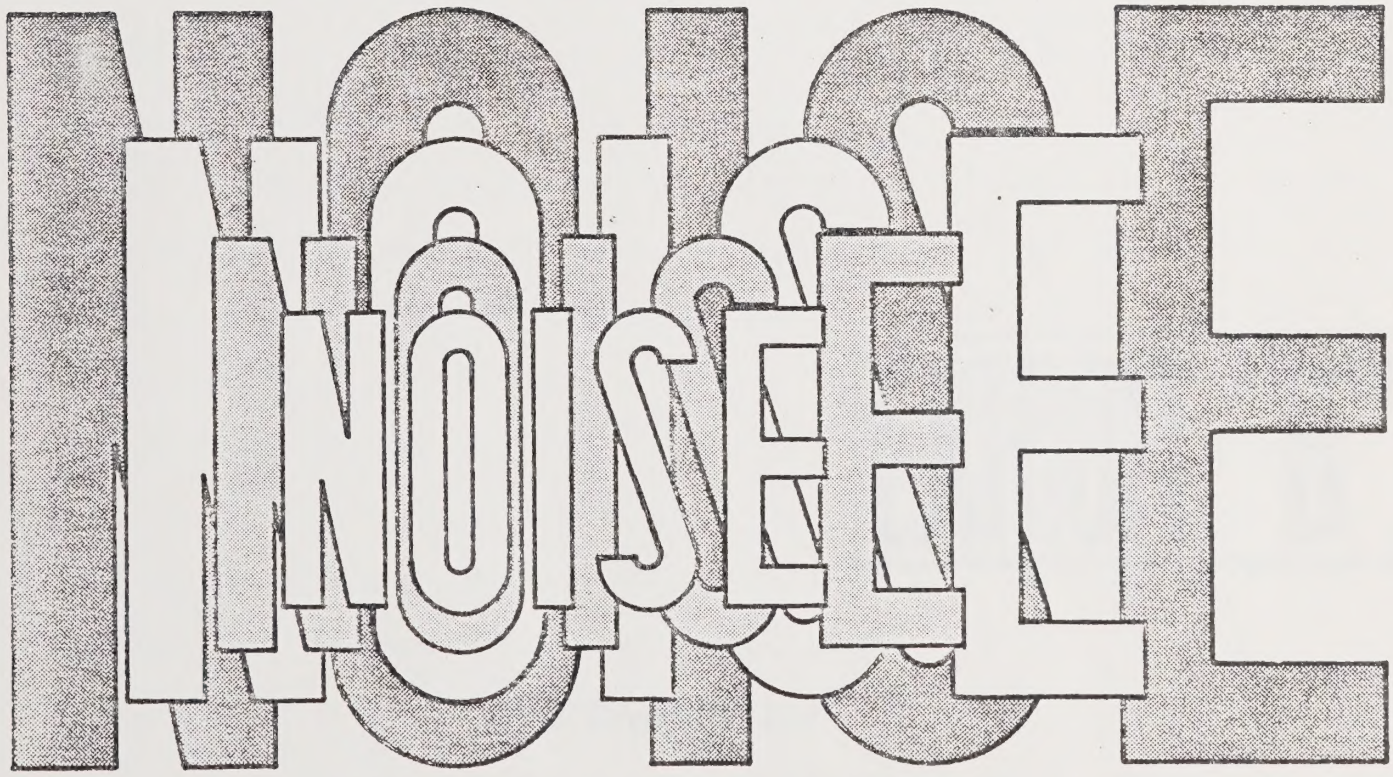
NOISE ELEMENT of the GENERAL PLAN



CITY of TEMPLE CITY
PLANNING DEPARTMENT
JUNE 1975

88 00807

THE NOISE ELEMENT

OF

THE GENERAL PLAN

EXHIBIT "B"

PREPARED BY

THE PLANNING DEPARTMENT
CITY OF TEMPLE CITY

MAY / JUNE, 1975

INTRODUCTION

Noise is considered as one of the major pollutants of our time; it is a part of our technological progress and continuous population growth. Noise has always accompanied man and his activities. Even in the old days noise harassed man and his environment. But the modern urban man is especially exposed to loud and disturbing noises emitted by vehicles, aircraft, pneumatic hammers, electronically amplified sound and home appliances. Scientists say that for the last 25 years the noise level has been increasing in our society at a rate of 1 decibel a year. Noise pollution has become the "third jeopardy" in our daily life, in addition to water and air pollution. Motor vehicles and aircraft, by their number and noise, stand out as the major contributors to the the problem of noise.

In city planning, the problem of noise is of vital importance on human health for two reasons: its relation to building design, building construction and location of land uses, and the impact of noise on the urban environment.

This report is concerned with identification of noise levels in the city, effects of noise on man, existing legislation, forecasts, recommendations and policies in reducing or, in some cases, containing, the present noise level within the city.

AUTHORITY

The California Government Code, Section 65302(g) requires that a noise element be included in the General Plan as follows:

"A noise element in the quantitative, numerical terms, showing contours of present and projected noise levels associated with all existing and proposed major transportation elements. These include, but are not limited, to the following:

(1) Highways and freeways
(2) Ground rapid transit systems
(3) Ground facilities associated with all airports operating under a permit from the State Dept. of Aeronautics

"These noise contours may be expressed in any standard acoustical scale which includes both the magnitude of noise and frequency of its occurrence. The recommended scale is sound level A, as measured with A-weighting network of a standard sound level meter...

"Noise contours shall be shown in minimum increments of 5 decibels and shall be continued down to 65 dBA. For regions involving hospitals, rest homes, long-term medical or mental care, or outdoor recreational areas, the contours shall be continued down to 45 dBA".

The State requirements followed the recognition of the noise problem on the federal level. Title IV of Public Law 91-604 was signed into law on December 31, 1970, which directed the Environmental Protection Agency to conduct a "full and complete investigation and study of noise and its effects on public health and welfare."

The California Council on Intergovernmental Relationship (CIR) issued guidelines in September, 1973, for the preparation of all mandatory elements of the General Plan including the Noise Element. The CIR guidelines have been applied in the preparation of the Noise Element of the General Plan.

CITY GOALS AND POLICIES

GOALS

Goals reflect attainable aims and basic values. The decisions and program formulation should be directed toward the following goals:

1. Provide a suitable urban and psychological environment free of excessive sounds and noise.
2. Reduce noise level from all sources in the community and prevent noise intrusions into presently quiet areas.
3. Establish compatible land use adjacent to major transportation routes.
4. Make recommendations to the County, State, and other governmental agencies relative to the reduction or containment of the level of noise in the city.

POLICIES

1. Identify in numerical terms present and future noise level in the community.
2. Establish appropriate standards and criteria for desirable sound levels in various land use categories.
3. Research available scientific and governmental materials relating to reduction of the noise level and the effects of noise on man and his environment.
4. Pursue a policy of an effective enforcement program in noise abatement.
5. Pursue a policy designed to increase community awareness and participation in the reduction of noise in the City.

6. Develop and keep up-to-date a noise contour map that will identify the major sources of noise in the City.
7. Maintain communications with other agencies which call for joint efforts to study and control noise.

DEFINITION OF TERMS

Acoustics - the science of sound, involving generation, transmission, and effects of sound waves, both audible and inaudible. There are three basic attributes of sound: velocity, frequency and wave length.

A, B or C weighting refers to standard frequency band width networks in sound level meters. The A-weighting network shows the lower frequencies according to a relationship approximating the auditory sensitivity of the human ear at moderate sound levels.

Ambient noise - conglomeration of different airborne sounds from several sources near and/or at a distance from a point of measurement.

Amplitude - peak value of a periodically varying quantity such as that of a traveling sound wave.

Community Noise Equivalent Level (CNEL) - a scale which takes into account all of the A-weighted acoustic energy received from all noise events causing noise levels above some prescribed value. Weighting factors place greater importance upon noise events at night (10 p.m. to 6 a.m.).

Composite Noise Rating (CNR) - a scale which takes account of the totality of all aircraft operations at an airport in quantifying the total aircraft noise environment.

dB(A) Scale - an electronic measuring device built to national standards, not the old American Standards, when one sets the meter on the A scale, it essentially takes out part of the acoustical energy; it takes out much of the lower frequency. It attempts to have a meter hear like the ear does.

Decibel - (abbreviated "dB) is a measure, on a logarithmic scale, of the magnitude of a particular quantity (such as sound pressure, sound power, intensity, etc.) with respect to a standard reference value.

Effective Perceived Noise Level (EPNL) - a physical measure designed to estimate the effective "noisiness"of a single noise event, usually an aircraft fly-over.

Frequency - rate of repetition of periodic motion; units are Hertz (Hz. cycles per second).

Intrusive Noise - unwanted sound from an identifiable source which can be measured above the background (or ambient) noise.

Noise - a sound, usually of annoying and disturbing nature.

Noise Pollution Level (NPL) - a measure of the total community noise applicable to both traffic and aircraft noise.

Perceived Noise Level (PNL) - a quantity expressed in decibels that provides a subjective assessment of the perceived "noisiness" of aircraft noise. The units of Perceived Noise Level are Perceived Noise Decibels (PndB).

Pitch - low pitch is slow vibration, long wave length. High pitch is fast vibration, short wave length.

Sound - basically an oscillation of the surrounding medium (usually air) caused by an initial vibration of a source object. Sound travels 1,100 ft. per second or 760 miles per hour.

Sound Power Level - the level of sound power, averaged over a period of time, the reference being made 10^{-12} watts.

Sound Pressure - the minute fluctuations in the atmospheric pressure which accompany the passage of a sound wave; the pressure fluctuations on the tympanic membrane.

Sound Pressure Level - the level of sound pressure at the point of reception, squared and averaged over a period of time.

CHARACTERISTICS OF SOUND WAVES

Sound or noise is a vibration transmitted by molecules of air.

There are 3 components of sound: source, transmission path, and receiver. Exhibit 1 indicates these elements and their relationship. There are many sources of noise, a number of which is graphically shown in Exhibit 2. Distance is basically the transmission path, and people and animals are the receivers.

The volume of sound is measured in decibels or pressure units. The scale in decibels ranges between 0 and 180 (Exhibit 2), and pressure units range between 0.002 to 2000 dynes per sq. cm. The decibels are more practical than pressure units, and correspond more closely to the human ear.

People do not perceive in direct proportion to sound level. An average person will perceive a change of 10 dB(A) as sounding twice as loud, or half as loud. Thus 60 dB(A) is about twice as loud as 50 dB(A).

Doubling a source of sound will result in an increase of 3 dB(A). If one car, at a certain distance, produces a noise level of 70 dB(A), two cars will have a noise level of 73 dB(A), 4 cars 76 dB(A), etc.

Sound may be steady, fluctuating, or impulsive. Impulsive sounds, such as hammering or riveting, tend to be more annoying than steady broad noise containing a wide range of random frequencies.

Sounds get quieter as the source moves farther away. Every time the distance from the source is doubled, the sound level is decreased by 6 dB.

The effect or power of a sound may be reduced by distance, hills, walls, building structures, landscaping, and other objects which block or interrupt the transmission path.

Sound propagation is affected by wind, weather and topography. Extremes of wind, humidity, or obstructing or reflecting terrain features should be avoided when making noise measurements.

Sound level meters are used to measure peak or average sound amplitudes. Most sound level meters incorporate an "A-weighted" scale for measuring sound.

THE IMPACT OF NOISE

The adverse effects of the noise pollution may be broadly classified into two categories; physiological and psychological. There are, however, other adverse impacts of noise pollution, including economic and sociological effects.

The economic effects are concerned with medical cost, loss of production and efficiency, sound insulation and construction costs, abatement, litigation, and increased vacancies. For instance, an eight-foot high wall or earth berm, adjacent to a freeway, may cost as much as $700,000 per mile.

From the sociological point of view, excessive noise may interfere with our communication skills and speech, school and church programs, occupational and recreational activities. A study indicates that persons exposed to unwanted sounds become quarrelsome, easily irritable and unsociable.

Physiological Impact

The excessive noise affect may damage our hearing sense. According to a survey, in the United States about 11 million adults and 3 million children suffer from hearing loss. Exposure to prolonged and uncontrolled noise level is the cause of hearing loss. The hair-like sensors of the cells within the ear suffer considerable changes as a consequence of sudden bursts of noise, explosions or other high frequency sounds.

Impairment of hearing is not the only physiological damage to human beings. The human fetus may be affected by noise directly or

indirectly (with respect to the mother's reaction to excessive noise.) Stress caused by excessive levels may cause heart disease, migraine headaches, gastrointestinal disorders, allergies and other physiological functions. A city planner-architect once said that "noise and smog are slow agents of death."

Psychological Impact

The effect of noise does not apply to all persons equally. People with different background react differently to a sound or noise. Loud music may be pleasing to one person, and quite annoying to another. It can be said, in general, that the louder the noise, the greater the annoyance or disturbance will be.

Psychologists and psychiatrists assert that there is a connection between excessive noise and mental disorders. Loss of hearing, in fact, may be "the least serious impairment of the human organism caused by noise pollution". We are in the midst of "tensions" of modern living. The most obvious negative effect of noise pollution is loss of sleep.

NOISE SURVEY IN THE CITY

In measuring the noise level in the City, emitted from various sources, a sound level meter was applied. The measurements were taken with the A-scale which approximates the frequency range of the human ear.

To obtain an objective view of the noise level, many sites of noise sources were taken and measured. As a result of the noise measurements, two composite maps were prepared with the ambient day-and-nighttime readings in decibels (Exhibits "A" and "B").

Special sources of significant noise level were considered: Primary and secondary roads, Southern Pacific Railroad (SPRR) and the El Monte Airport. Noise readings were taken during the daytime between 10 a.m. and 12 a.m. and between 9 p.m. and 12 p.m. at nighttime.

Exhibits "A" and "B" do not reflect high pitch and frequency measurements which occurred as single and temporary events such as the passing of automobiles and trucks, dog barking, lawnmowers, etc. These sound levels were noted, but not considered as a part of the ambient noise level.

Measurements were taken at each intersection of a primary or secondary road, and a 5 dB(A) contour map established on that basis. Noise readings were taken approximately 50-80 ft. from the center-line of a road. The ambient noise level on major roads indicates a range of 55 to 62 dB(A) during daytime, and a reduction of about 5 dB(A) at nighttime. Noise emitted by cars and trucks could increase the noise readings to 75-90 dB(A) at any location on a major road.

It was also observed that, along the Eaton Wash Flood Control Channel, in the straighter portions of the channel, noise seemed to be ducted horizontally. Sounds from passing cars and trucks on Las Tunas Drive were measured as far away as the Longden Avenue overpass, a distance of approximately 3/4 of a mile. Changes in direction of the channel seem to effectively eliminate this funneled sound.

Some other considerations as to intrusive noise are the meteorological conditions, such as fog, low clouds, rain, high winds, etc. Fog, for instance, would have a dampening effect and reduce the intrusive noise as opposed to a cold clear night when sound would be magnified.

Generally, at night, intrusive noise is more noticeable, because of the lower ambient noise level for the surrounding area.

Residential areas, especially those with low density pattern, have a tolerable sound level of about 45 to 50 dB(A) daytime, and a range of 38 to 45 dB(A) nighttime. The overall noise level in the Temple City area compares favorably with other urban areas in the nation (Table 1).

Noise caused by the Southern Pacific Railroad train was 68 dB(A) at a 500 ft. distance north of the track at night, and 88 dB(A) for a freight engine, and 72 dB(A) for freight cars at a distance of 50 ft. at the crossing of Lower Azusa Road and the Southern Pacific Railroad tracks.

The noise level caused by aircraft at the El Monte County Airport is not a serious problem to the residents of Temple City (Exhibit 4).

At the points of measurement, the noise pollution emitted by aircraft of El Monte Airport in the take-off or landing pattern, did not exceed the background or ambient noise level of 45 to 60 dB(A). In

some cases the aircraft noise level was not measurable because the ambient (local) noise level was greater than the aircraft sound level. Locations of noise measurements: Lower Azusa and Baldwin, Olive and Baldwin, Olive and Arden, Freer and El Monte Avenues. The estimated height of the airplanes: 1,000 to 1,300 ft. above ground level.

At two points of measurements, both of which are outside the City limits, and adjacent to the El Monte Airport, decibel readings were 58 dB(A) and 65 dB(A) on landings, measured about 300 ft. north of the runway. The other location is at the end of El Monte Avenue and the Rio Hondo Flood Control Channel located about 800 ft. west of the runway. The noise level on takeoffs was between 68 dB(A) and 82 dB(A).

SOURCES OF NOISE AND GOVERNMENTAL RESPONSIBILITIES

The sources of noise pollution are many in number and diversity. There are basically four general categories: 1) aircraft noise and sonic booms; 2) traffic; 3) construction and industry; and 4) household appliances.

1) Efforts are being made to reduce aircraft noise by the Environmental Protection Agency (EPA), the Federal Aviation Administration (FAA), Federal Department of Transportation (DOT), jet engine manufacturers, the airline and airport authorities. Federal requirements establish acceptable noise levels before certification of new aircraft. No other noise level creates more conflict and controversy among the residents than the location or extension of airports. Together with airplanes flying faster than the speed of sound, we experience shock waves which produce startling and "most damaging noise" called sonic booms. It is estimated that the supersonic transport (SST) could change noise pollution from a "local phenomenon to one of national and international proportions."

California Public Utilities Code provides noise standards to protect the public from aircraft noise to the extent that these are not already limited by federal law. The State requires that each county is responsible for validating the airport's noise monitoring enforcing regulations, and submitting quarterly reports to the State Department of Aeronautics including a map of the noise impact boundary, daily Community Noise Equivalent Level (CNEL) measurements and recorded violations of the noise level limits (Refer to Table 2).

2) Traffic noise is one of the major contributing factors to our environmental noise pollution.

The Federal Aid Highways Act, as amended in 1970, directs the Secretary of Transportation to promulgate standards for highway noise levels compatible with different land uses.

The Noise Control Act (NCA) requires that the Environmental Protection Agency (EPA) be responsible for making regulations to govern noise level of surface carriers and motor vehicles involved in interstate commerce. State and local governments are prohibited from establishing noise emission limits different from the applicable federal laws. Large trucks, for example, can be retrofitted not to exceed a maximum of 90 dB(A).

California has a noise control program for new vehicles noise emission standards (Tables 3 and 4). The California Highway Patrol is responsible for enforcing these regulations. In addition, the California Streets and Highways Code requires the State to reduce the noise levels in classrooms, libraries and multi-purpose purpose rooms of schools adjacent to a proposed freeway.

Cities and counties may make and enforce ordinances within their limits, not in conflict with the general laws, but they cannot enact noise limits to be enforceable on highways.

3) Industrial noise that causes hearing damage is prohibited by the National Occupational Safety and Health Act (OSHA) pending a current revision (Table 5) and by the Walsh-Healy Contracts Act. These acts presently set a maximum exposure of 8 hours above 90 dB(A). The OSHA

is applicable to all businesses in interstate commerce and the Walsh-Healy Act to contracts with Federal government in excess of $10,000.

Federal noise regulations apply to all HUD (Housing and Urban Development) assisted projects. Furthermore, the NCA gives authority to prescribe noise emission standards for the following categories: construction equipment, transportation equipment, any motor or engine, electrical or electronic equipment.

In California, the control of industrial noise rests with the

State Division of Industrial Safety.

The California Environmental Quality Act declares that it is the policy of the State to require local governments to develop and enforce standards to protect the people of California from excessive noise. Section 65302(g) requires that a noise element be provided in all city and county general plans.

Local jurisdictions may enact ordinances placing a curfew on construction that creates excessive noise and restrict the noise of construction equipment that exceeds certain standards.

4) Animals occasionally produce excessive and disturbing levels of noise. It may not be a constant level, but their noise is loud and could spread over several blocks in the neighborhood.

A number of household appliances is the noise center of the modern home in the United States: lawnmower, dishwasher, exhaust fan, music with amplifiers, the garbage disposal, vacuum cleaners, etc. The household appliances increase not only in

number but also by increasing the size of their power sources. A few years ago, for example, power mowers had one horse-power engines and now they may have three times as much.

PROJECTED NOISE LEVEL

It is relatively easy to obtain the existing noise level, but projecting future noise is a tenuous task. There are three alternatives in reducing the noise level: a) reduce the noise level at the source, b) reduce noise by controlling the path of transmission, and c) reduce tne noise impact on the receiver. Reducing noise at the source lies primarily with the federal and State governments. The other two alternatives are related to the land use patterns and development.

Local governments can restrict noisy aircraft from using an airport, or reduce speeds or prohibit trucks on surface streets. Noise can be controlled by construction of walls, landscaping, buffer zones, soundproofing of existing structures. Future noise problems can be reduced by concerted efforts in land use planning, building code, zoning restriction and a noise ordinance.

There are some indications that the average noise level has been slowly decreasing due to the combined efforts of federal and State governments as well as private industries. The Environmental Protection Agency reported that most of the United States automobiles built since 1969 meet present California noise requirements.

The maximum speed limit of 55 miles per hour will reduce not only the consumption of fuel, but also the noise level. A decrease, for example, in average speed of 10 miles per hour may result in a decrease of 2.5 - 3.0 decibels in the noise level.

In the long run, an alternative system of transportation (an effective and reliable mass transportation system) would relieve our present streets and highways of traffic volume, and therefore substantially reduce the noise pollution in urban areas.

With the implementation and enforcement of the program and combined efforts between governmental agencies and private enterprise, it is anticipated that the noise level in the city will be reduced by about 3 dB(A) in residential areas and about 5 dB(A) on the major roads by 1985.

RECOMMENDATIONS

1. Employ techniques of noise abatement through the building code, noise ordinance, subdivision and zoning ordinances.

2. Reduce the present and future impact of excessive noise from transportation sources through planning and regulatory measures.

3. Promote public awareness relating to the problems and effects of noise.

4. Coordinate the problem of noise with adjacent cities and Los Angeles County.

5. Include maximum level requirements in specifications for equipment purchases, construction contracts, and refuse collection. If a specific level cannot be set, request that vendors state the noise level expected to be produced by their equipment or operations.

6. Review and reevaluate the City's traffic flow system to synchronize signalization and to adjust traffic flow to acceptable levels.

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E X H I B I T S

AND

T A B L E S

TABLE 1

GUIDELINES FOR COMMUNITY NOISE LEVELS

AREA	Sound Level (dBA)		
	Day*	Night	Other
Rural (residential)	50	40	45
Suburban (residential) (also hospital, church, and similar zones)	55	45	50
Urban (residential) (also apartment)	60	50	55
Urban (residential) with some commercial, retail, or light industry	65	55	60
Predominantly industrial	70	60	65
Heavy industrial, few dwellings	75	65	70

Day is 7 a.m. - 6 p.m.
Other is 6 p.m. - 10 p.m.
Night is 10 p.m. - 7 a.m.

Source: SCAG, The Workshop on the Noise Element, June 5, 1974

TABLE 2

SUMMARY ANALYSIS OF JURISDICTIONAL RESPONSIBILITY IN NOISE CONTROL

	AIRCRAFT	MOTOR VEHICLE	NOISE IN GENERAL
FEDERAL	-NCA 1972, EPA to propose noise control regulations for aircraft, amends S-611 FAA Act of 1958, asserts that FAA and EPA pre-empt local control (U.S.C.1973)	-Federal Aid Highways Act, P.L. 91-605 directs Secretary of Transportation to make standards for highway noise control; promulgated in PPM 90-2 of February, 1973. -NCA 1972, regulates noise from surface carriers and motor vehicles engaged in interstate commerce.	-Walsh Healy Act applies noise standards to Fed. contracts. -O.S.H.A. applies noise standards to businesses affecting interstate commerce. -NCA 1972 gives EPA authority to prescribe standards for new products: + construction equipment + transportation equipment + any motor or engine + electric/electronic equipment and label noise emitting or noise abating equipment
STATE (California)	-Subchapter 6. Noise standards, Department of Aeronautics. Regulate noise for all aircraft operations to the extent not already limited by federal law.	-Motor Vehicle Code regulates noise limits for new vehicles and all motor vehicle operation. -Cal. Streets and Highways Code S 216 regulates noise within schools near freeways. -Harbor and Navigation Code S2:654.05 regulates noise emission from motorboats in or upon inland waters.	-Division of Industrial Safety publishes noise regulations. -S 415 Penal Code prohibits loud and unusual noise that disturbs the peace. -Environmental Quality Act encourages local agencies to control environmental quality.
LOCAL	-Airport authority as proprietor may impose curfew. (Issue has yet to be resolved in courts).	-Local jurisdiction may enact regulations for off-highway motor vehicles, refuse vehicles and sound trucks. -May regulate the use of roads and highways based on noise considerations.	-May enact ordinances to control: + construction noise + amplified sound + fixed noise sources + loud/unusual noise + other noise sources whose control is not pre-empted by state or federal gov't.

Source: SCAG, Background Information to the Workshop on the Noise Element, June, 1974.

TABLE 3

NOISE LIMITS FOR ON HIGHWAY MOTOR VEHICLES

STATE OF CALIFORNIA

	On Streets with a Grade of 1% or higher		On Streets with a Grade not exceeding 1%
	Speed Limit of 35 mph or less	Speed Limit of more than 35 mph	Speed Limit of 35 mph or less
(1) Any motor vehicle with a manufacturer's gross vehicle weight rating of 6,000 pounds or more and any combination of vehicles towed by such motor vehicle:			
(a) Before January 1,1973	88 dB(A)	90 dB(A)	
(b) On and after January 1, 1973	86 dB(A)	90 dB(A)	82 dB(A)
(2) Any motorcycle other than a motor-driven cycle	82 dB(A)	86 dB(A)	77 dB(A)
(3) Any other motor vehicle and any combination of vehicles towed by such motor vehicle	76 dB(A)	82 dB(A)	74 dB(A)

SOURCE: Section 23130, 23130.5, Motor Vehicle Code

TABLE 4

NOISE LIMITS FOR NEW MOTOR VEHICLES

STATE OF CALIFORNIA

S27160. (a) No person shall sell or offer for sale a new motor vehicle which produces a maximum noise exceeding the following noise limit at a distance of 50 feet from the centerline of travel under test procedures established by the department:

(1) Any motorcycle manufactured before 1970	92 dbA
(2) Any motorcycle, other than a motor-driven cycle, manufactured after 1969, and before 1973	88 dbA
(3) Any motorcycle, other than a motor-driven cycle, manufactured after 1972, and before 1975	86 dbA
(4) Any motorcycle, other than a motor-driven cycle, manufactured after 1974, and before 1978	80 dbA
(5) Any motorcycle, other than a motor-driven cycle, manufactured after 1977, and before 1988	75 dbA
(6) Any motorcycle, other than a motor-driven cycle, manufactured after 1987	70 dbA
(7) Any snowmobile manufactured on or after January 1, 1973, and before January 1, 1975	82 dbA
(8) Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured after 1967, and before 1973	88 dbA
(9) Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured after 1972, and before 1975	86 dbA
(10) Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured after 1974, and before 1978	83 dbA
(11) Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured after 1977, and before 1988	80 dbA
(12) Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured after 1987	70 dbA
(13) Any other motor vehicle manufactured after 1967, and before 1973	86 dbA
(14) Any other motor vehicle manufactured after 1972, and before 1975	84 dbA
(15) Any other motor vehicle manufactured after 1974, and before 1978	80 dbA
(16) Any other motor vehicle manufactured after 1977, and before 1988	75 dbA
(17) Any other motor vehicle manufactured after 1987	70 dbA

SOURCE: Section 27160, Motor Vehicle Code

TABLE 5

OSHA Noise Exposure Limits

Duration Per Day (hours)	Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
1/2	110
1/4 or less	115

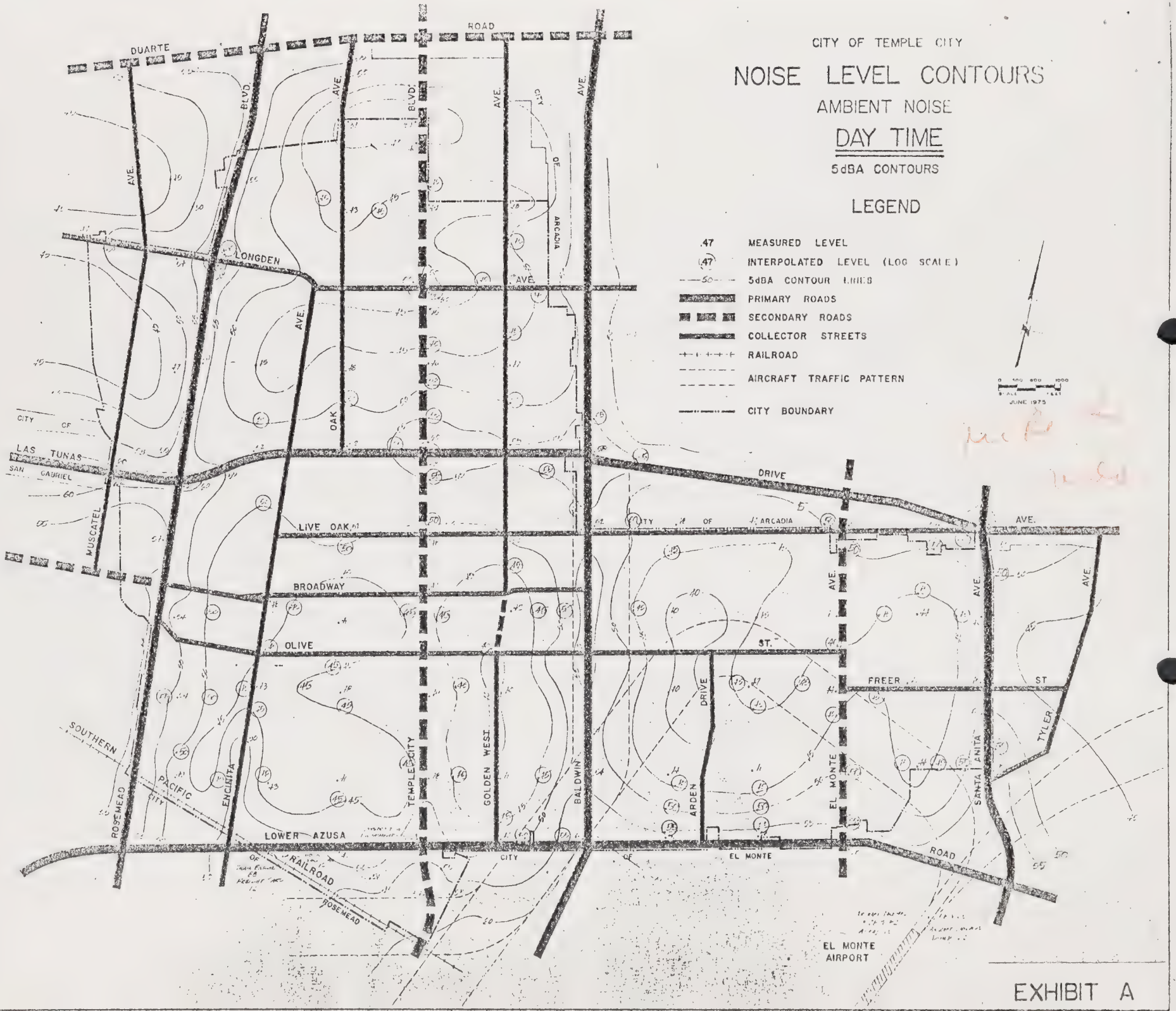
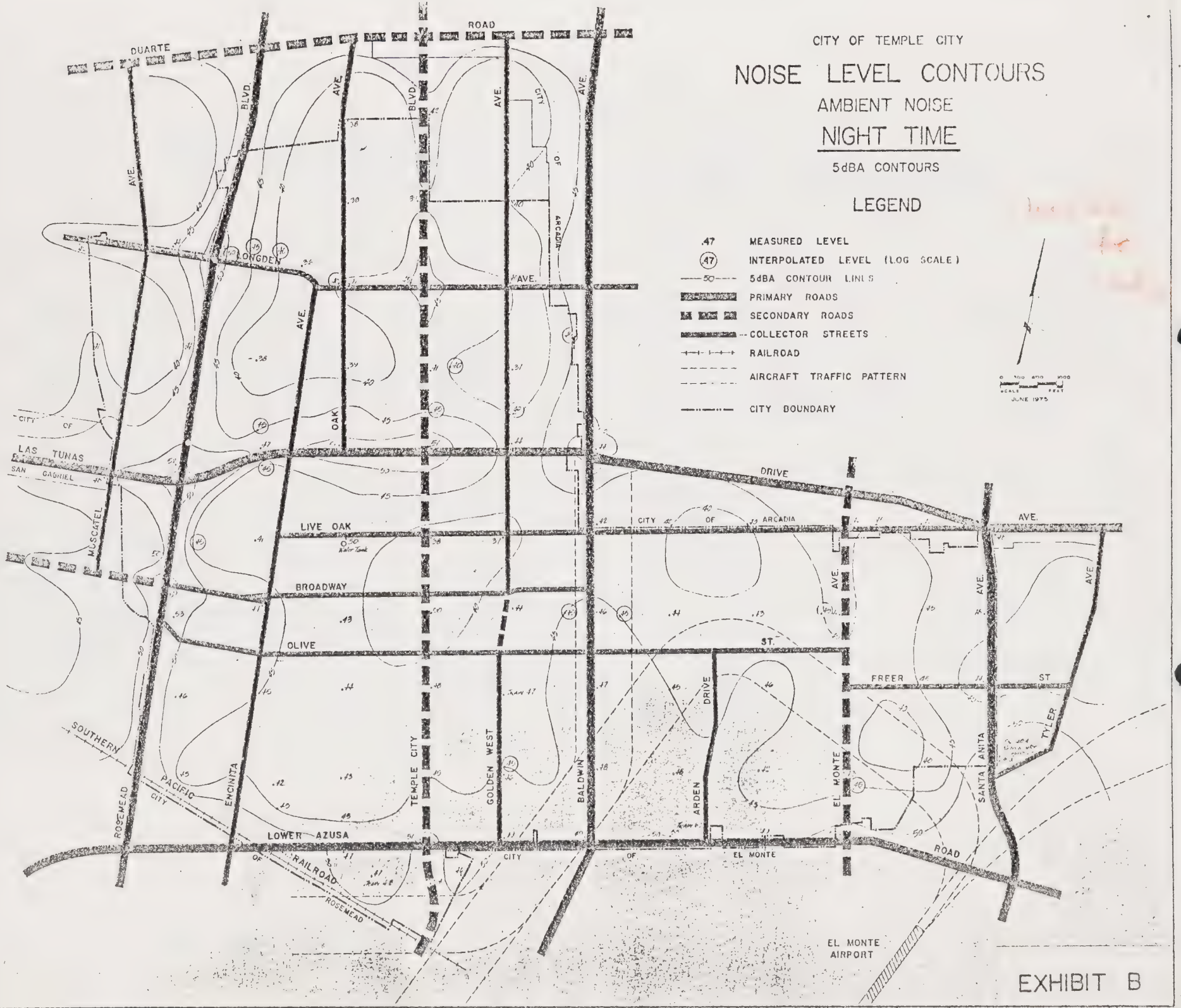

CITY OF TEMPLE CITY
NOISE LEVEL CONTOURS
AMBIENT NOISE
DAY TIME
5dBA CONTOURS
LEGEND
.47 MEASURED LEVEL
(.47) INTERPOLATED LEVEL (LOG SCALE)
50 5dBA CONTOUR LINES
PRIMARY ROADS
SECONDARY ROADS
COLLECTOR STREETS
RAILROAD
AIRCRAFT TRAFFIC PATTERN
CITY BOUNDARY
JUNE 1975
DUARTE ROAD
LONGDEN AVE.
LAS TUNAS DRIVE
LIVE OAK
BROADWAY
OLIVE ST.
FREER ST
SOUTHERN PACIFIC RAILROAD
LOWER AZUSA ROAD
EL MONTE AIRPORT
MUSCATEL
ROSEMEAD
ENCINITA
TEMPLE CITY
GOLDEN WEST
BALDWIN
ARCADIA
ARDEN
EL MONTE
SANTA ANITA
TYLER
OAK
CITY OF ARCADIA
CITY OF EL MONTE
CITY OF SAN GABRIEL
CITY OF ROSEMEAD
CITY OF PASADENA

EXHIBIT A


CITY OF TEMPLE CITY
NOISE LEVEL CONTOURS
AMBIENT NOISE
NIGHT TIME
5dBA CONTOURS
LEGEND
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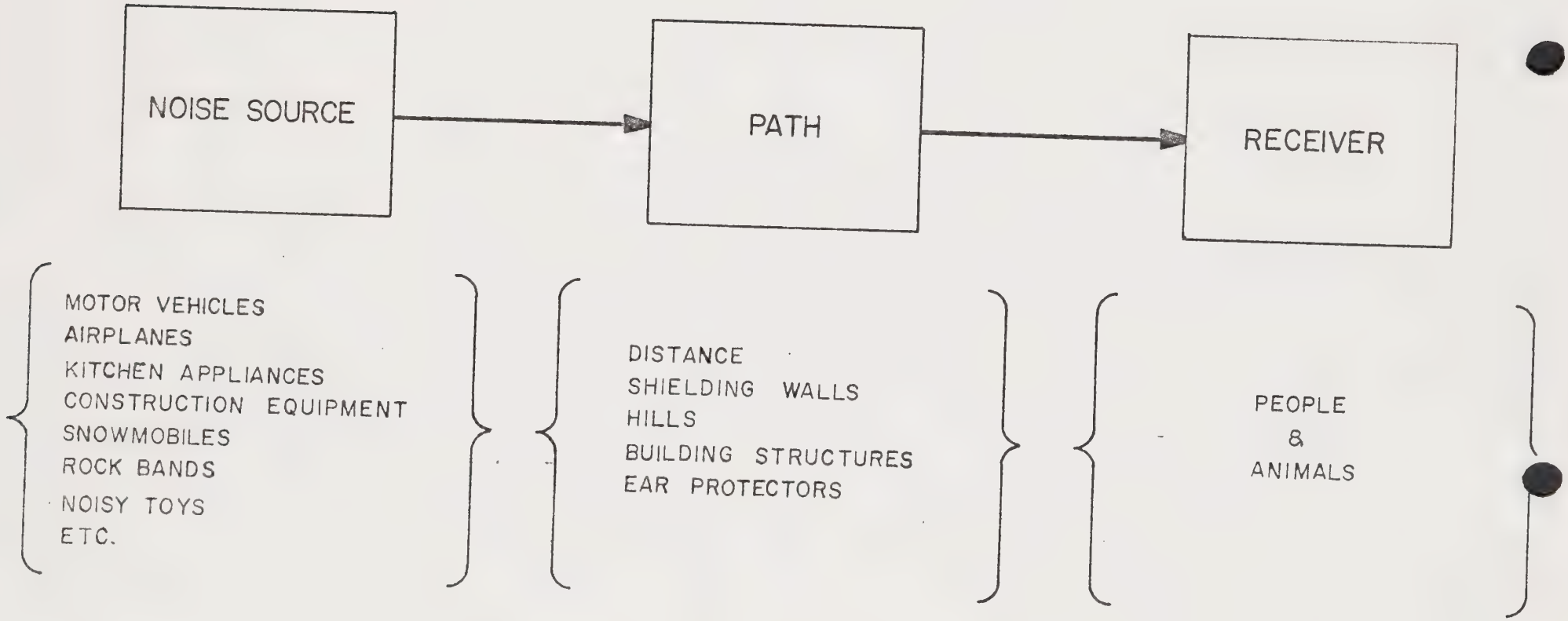
(47) INTERPOLATED LEVEL (LOG SCALE)
50 5dBA CONTOUR LINES
PRIMARY ROADS
SECONDARY ROADS
COLLECTOR STREETS
RAILROAD
AIRCRAFT TRAFFIC PATTERN
CITY BOUNDARY
JUNE 1975
DUARTE ROAD
LONGDEN AVE.
LAS TUNAS DRIVE
LIVE OAK
BROADWAY
OLIVE ST.
FREER ST
LOWER AZUSA ROAD
EL MONTE AIRPORT
TEMPLE CITY BLVD.
GOLDEN WEST AVE.
BALDWIN AVE.
ARDEN AVE.
EL MONTE AVE.
SANTA ANITA AVE.
TYLER AVE.
ENCINITA AVE.
OAK AVE.
MUSCATEL AVE.
ROSEMEAD BLVD.
ARCADIA AVE.
CITY OF ARCADIA
CITY OF EL MONTE
CITY OF LAS TUNAS
CITY OF SAN GABRIEL
CITY OF PACIFIC CITY
SOUTHERN PACIFIC RAILROAD
0.50 Water Tank
EXHIBIT B

EXHIBIT 1

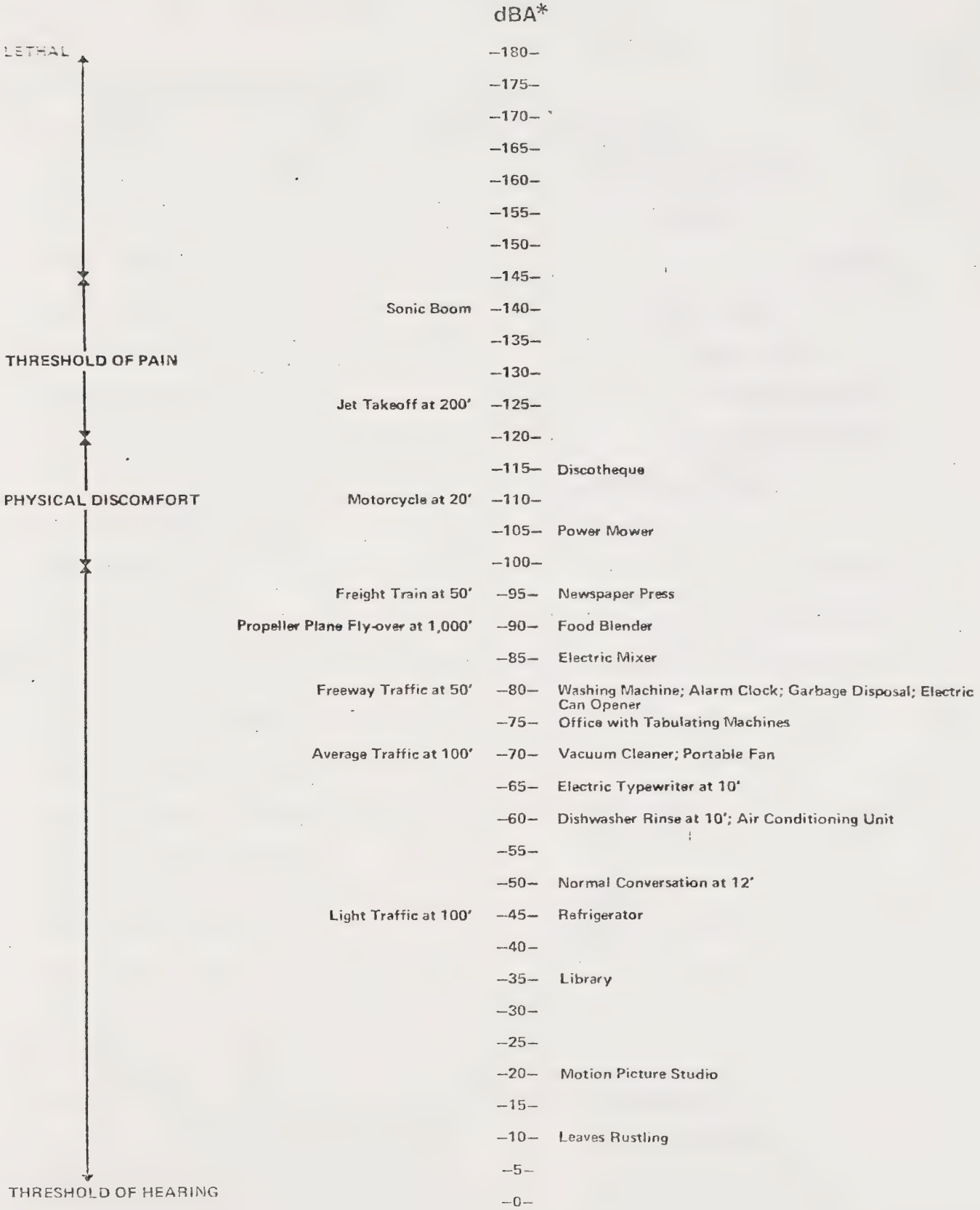
THE ELEMENTS OF A NOISE PROBLEM



SOURCE: NOISE WORKSHOP- UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON D.C. MARCH 15-18, 1972

EXHIBIT 2

ACOUSTICAL SCALE

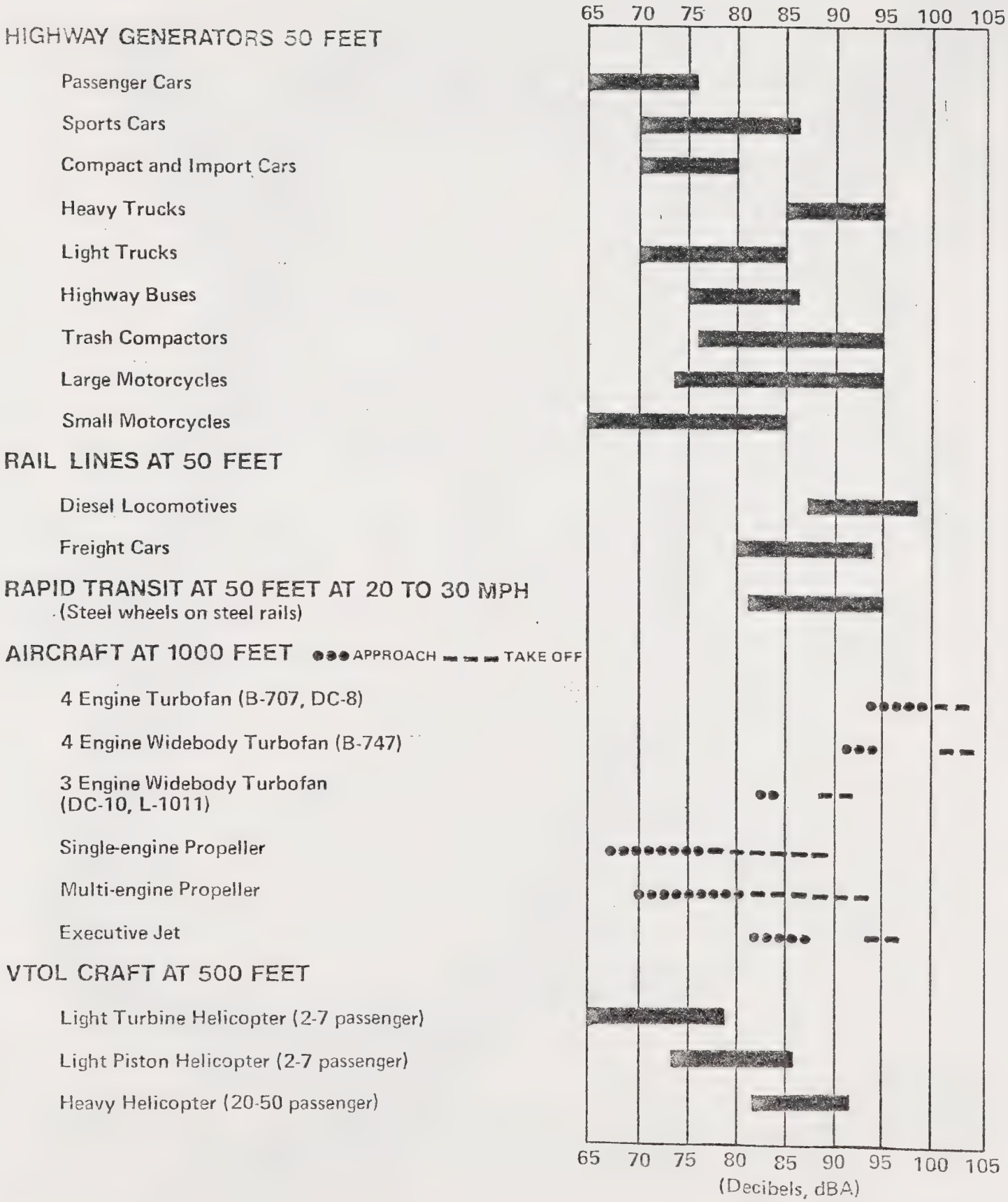


* The unit of sound is the decibel (dB). The loudness of sound is typically measured using a sound meter, the A-Scale of which corresponds closely to the way the human ear perceives sound. Thus the sound level for noise evaluations is frequently expressed in dBA.

SOURCE: L.A. CO. GENERAL PLAN, OCTOBER 1974

EXHIBIT 3

PRESENT NOISE EMISSION LEVELS[5] FOR TRANSPORTATION VEHICLES

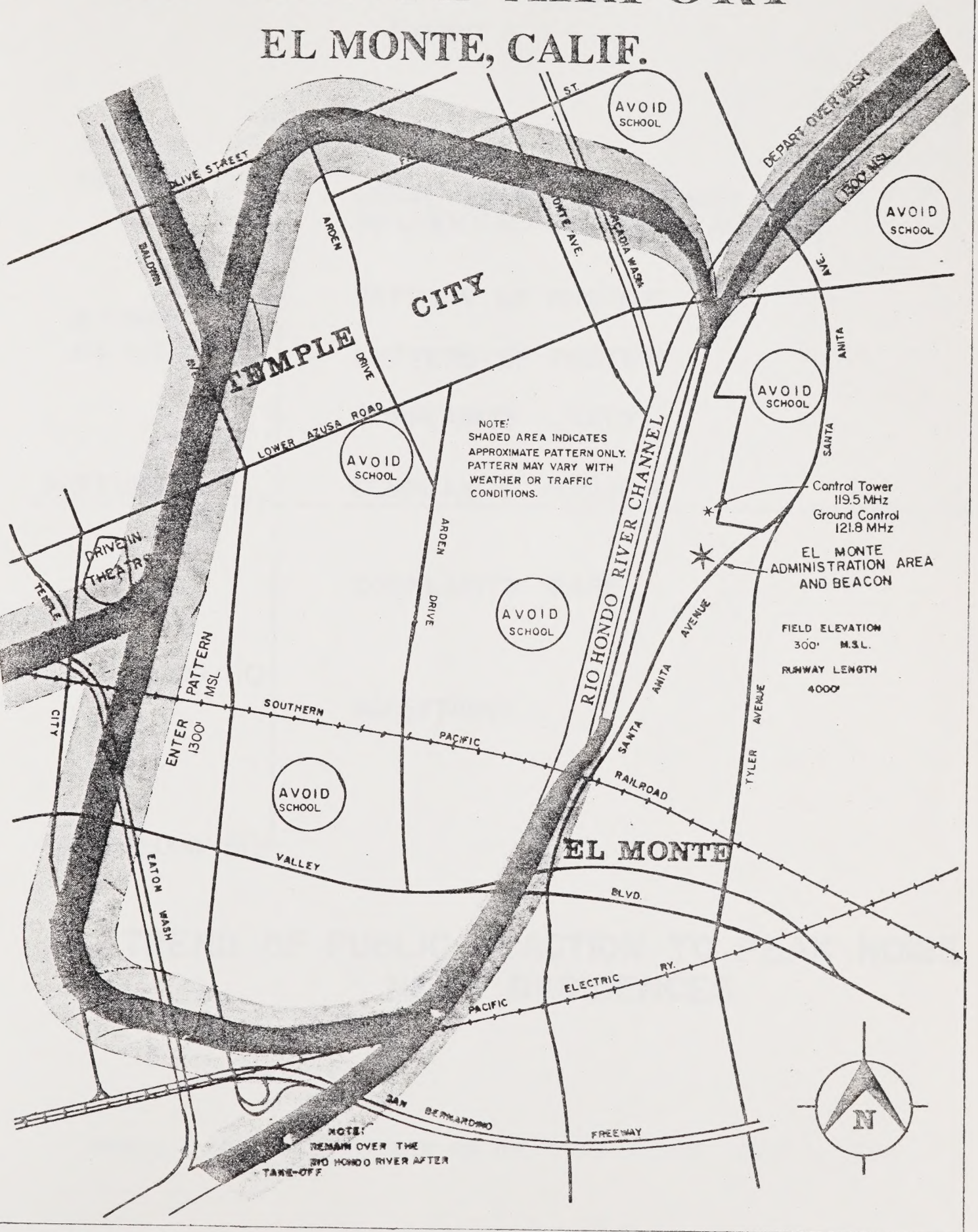


SOURCE: L.A. CO. GENERAL PLAN, OCTOBER 1974

EXHIBIT 4

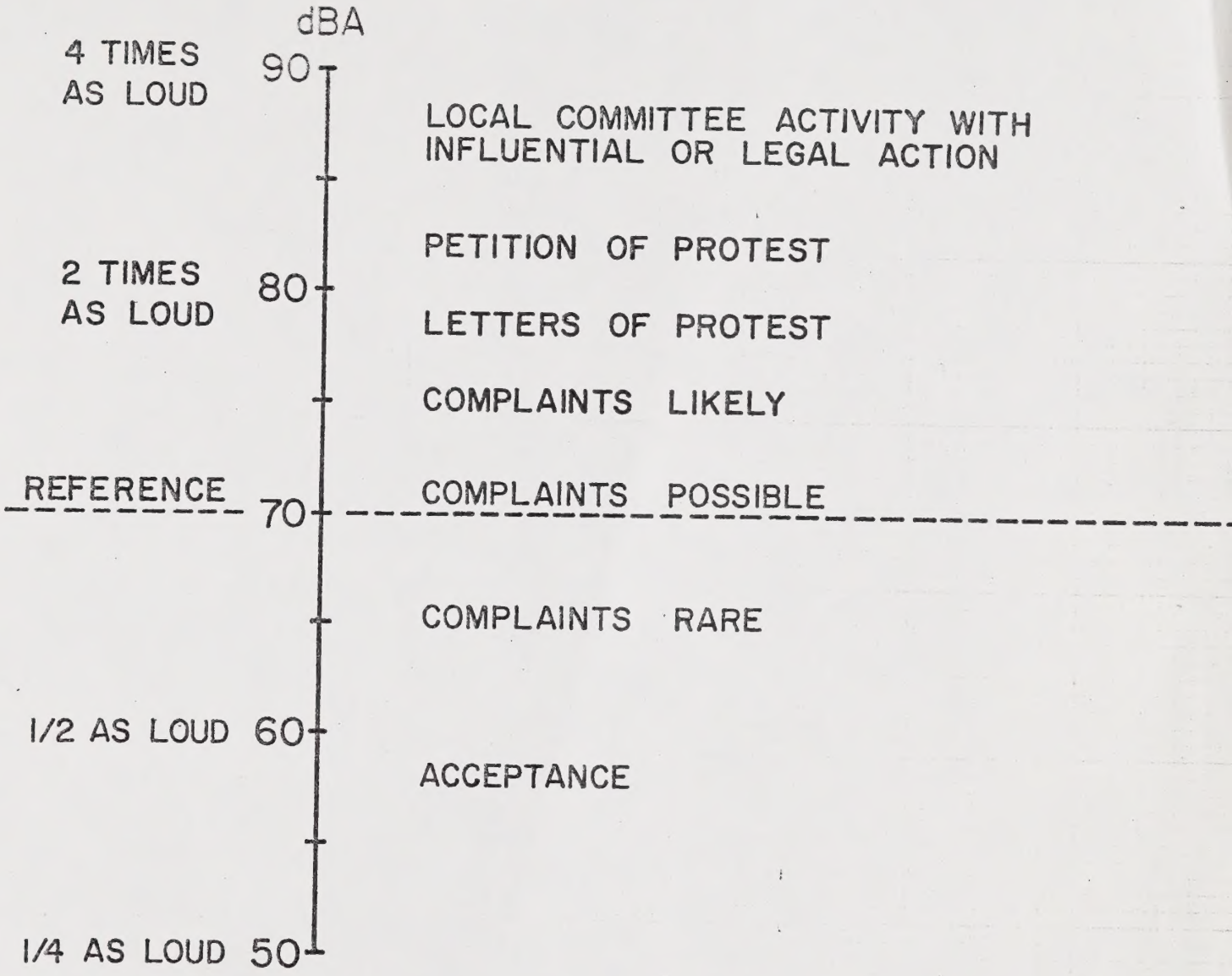
EL MONTE AIRPORT

EL MONTE, CALIF.



SOURCE: NORTHROP AVIATION, L.A. CO. AIRPORTS NOISE STUDY
NOV. 15, 1972

EXHIBIT 5



TREND OF PUBLIC REACTION TO PEAK NOISE NEAR RESIDENCES

SOURCE: SCAG, THE WORKSHOP ON THE NOISE ELEMENT, JUNE 5, 1974